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ABSTRACT

To examine the effectiveness of two types of creative experiences in 53 primary grade gifted students, pre- and post data were gathered in imaginative writing/puppetry classes and creative problem solving classes using the divergent thinking scales of the Structure of Intellect. Individual covariance by group and sex were used to analyze the changes. The creative problem solving class was found to be more effective in enhancing creativity scores. Sex differences were found that showed girls increasing more on the verbal measures in both groups. Six month follow-up data gathered on the creative problem solving group revealed that all gains were maintained. (Author/CL)

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THE EFFECTIVENESS OF CREATIVE EXPERIENCES IN ENHANCING CREATIVE DEVELOPMENT

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ABSTRACT

The Effectiveness of Creative Experiences
in Enhancing Creative Development

The purpose of this study was to examine the effectiveness of two types of creative experiences in 53 primary grade gifted students. Pre and post data was gathered in imaginative writing/puppetry classes and creative problem solving classes using the divergent thinking scales of the SOI. Individual covariance by group and sex were used to analyze the changes. The creative problem solving class was found to be more effective in enhancing creativity scores. Sex differences were found with girls increasing more on the verbal measures in both groups. Six month follow-up data was gathered on the creative problem solving group and all gains were maintained.

Creative thinking, as defined by Guilford and Torrance, involves interaction of the cognitive traits of fluency, flexibility, elaboration and originality. The emphasis on imagination and open-ended activity in aesthetic experiences would seem to be related to creative development in children. Indeed, the disciplines of drama, puppetry and imaginative communication are commonly called creative experiences. Yet, there is little evidence that aesthetic experiences, by themselves, will enhance creativity in children.

Even though there is little evidence to support the notion that aesthetic activities increase creativity in children, certain conditions commonly associated with the arts do appear to facilitate creative development. These factors include make-believe, fantasy, imagery and playful learning situations (Dansky, 1980; Li, 1978; Martins, 1980; Pepler & Ross, 1981; Smith & Dutton, 1979).

When these factors are incorporated into curricula with training in creative thinking, a creative-aesthetic approach is formed. Torrance (1969) found a creative-aesthetic approach to be an effective learning tool for kindergarten-aged children. The children in Torrance's study increased both learning readiness skills and creative thinking. Tweet (1980) found that fifth grade children also learn content and increase their creative thinking skills then exposed to

a curriculum that combines aesthetics, content and creative thinking.

However, when playful learning, fantasy experiences, aesthetic activity and creative thinking exercises are incorporated into a curriculum, we do not know which part of the experience is most effective in increasing creative thinking scores.

Creative problem solving training is one technique by itself that has been effective in increasing creative thinking in people of a wide variety of ages, including young children (Mansfield, Busse & Krepelka, 1978). The Parnes-Osborne model of creative problem solving is one approach that incorporates a wide variety of techniques known to enhance creative thinking such as warm-up exercises, learning to use memory and content cues, and use of higher level thinking (Cliatt, Shaw & Sherwood, 1980; La Greca, 1980; Nash, 1975; Pepler & Ross, 1981; Turner, 1980).

The purpose of this study is to examine the effectiveness of two types of "creative experiences" in increasing creative thinking in young children. Specificaly, which experience is more effective in increasing creative thinking scores: an aesthetic enrichment experience or a creative problem solving enrichment experience?

METHOD

Subjects

The subjects were 53 primary grade gifted students enrolled in public school enrichment classes sponsored by the Talented and Gifted Program in Portland, Oregon. The children were representative of the district at large with a cross section of socio-economic and racial groups included, attending 18 different district schools. Each child was identified as "potentially able" using district standards. The subjects were chosen on the basis of two self-selected groups. One group (27 children) was enrolled in three different creative problem solving (CPS) classes taught by one instructor who had specialized in primary-age CPS programs. The second group (26 children) consisting of two imaginative communication classes and one puppetry class (IC/P). Group two classes were taught by a professional writer and a professional puppeter interested in education. Age and sex distribution in each group are shown in Table 1.

Table 2 about here

Procedure and Analysis

All children were given pre and post tests of the figural (DFU) and verbal (DMU) divergent thinking scales of the Structure of the Intellect (SOI). The pretests were all

administered on the first day of class and the post tests on the last day. Standard testing and scoring procedures were used.

Classes varied from 16-20 hours of instruction in two-hour blocks over a period of 8-10 weeks. All subjects included in the analysis completed pre and post tests and a minimum of 14 hours of class.

Classes proceeded between tests as planned by the teachers. The CPS classes used the Parnes-Osborne model of creative problem solving, adjusted to the age level of the children. The IC/P classes both introduced techniques of producing dramatic communication and puppetry construction.

Individual covariance by group and sex were used to analyze the change between pre and post tests, adjusting for pretest level differences. The analysis was run on DFU, DMU and composite (total) scores.

Results

The CPS class was found to be more effective in increasing the composite scores, but not the subscales. Girls had greater increases than boys in both composite and verbal scores. The figural scores were not significantly different for boys or girls in either group. The adjusted means gains and F values are found in Table 2.

Table 2 about here

Six month follow-up data was gathered to see if the CPS children maintained their gains. Since the children were originally gathered together for talented and gifted enrichment classes, they were scattered throughout the district. Therefore, the follow-up tests were given individually or in small groups. Repeated measures with a covariance analysis using adjusted pretest levels were used to study the follow-up data. Children maintained gains in all cases. The mean gains for the pre, post and follow-up tests and their significance levels are found in Table 3.

Table 3 about here

Discussion

The significant gain in the composite scores of the CPS group might reflect a variety of things. First, composite scores traditionally show stronger and/or more reliable results for a variety of mathematic reasons. Second, creative thinking, although measured as individual tests, tends to be a wholistic experience. The interaction of the various skills with each other may be creativity, not the parts by themselves. A third issue is that creative problem solving for young children incorporates a variety of experiences. However, the focus is not the product but rather the creative thinking process. The emphasis on process may not lend itself toward measurement of parts even though parts are addressed during training sessions.

This notion of part and whole is an important one. The Parnes-Osborne model and its techniques break the creative problem solving process into manageable "chunks" teaching the learner common strategies. However, the "chunks" (parts) are always related to the problem (whole). Young children in particular need such help if they are to attend to relevant details (Sibulkin & Uzgiris, 1978). Additionally, young children can and do solve problems in creative ways when the variables they deal with are reduced to one or two factors, (Steinberg, 1980). Aesthetic activities do not necessarily break the whole process into parts in the same way. At the same time, techniques and strategies of most aesthetic experiences tend to deal with products, not processes. As children attend to production, they may not be dealing with the relevant cognitive skills.

These part and whole issues may account for the increased effectiveness of the CPS group in this study. Yet, the results do not mean that aesthetic activity could not enhance creative development in young children. Further research should be conducted to explore the question as well as to study the effect of incorporating the creative problem solving process into imaginative communication and puppetry enrichment opportunities for children.

REFERENCES

Cliatt, M. J. Pluckett, Shaw, J. M., & J. M. Sherwood. Effects of training on the divergent thinking abilities of kindergarten children. Child Development, 1980, 51, 1061-1-64.

Dansky, J. L. Make-believe: A mediator of the relationship between play and associative fluency. Child Development, 1980, 51, 576-79.

La Greca, A. M. Can children remember to be creative? An interview study of children's thinking processes. Child Development, 1980, 51, 572-575.

Li, A. K. E. Effects of play on novel responses in kindergarten children. The Alberta Journal of Educational Research, 1978, 48, 517-36.

Mansfield, R. S., Busse, T. V. & E. J. Krepelka. The effectiveness of creativity training. Review of Educational Research, 1978, 48, 517-536.

Martins, R. L. Effect of fantasy stimulus on art products of young students. Dissertation Abstracts International, 1980, 40, 485. 4-A.

Nash, W. R. The effects of warm-up activities on small group divergent problem-solving. The Journal of Psychology, 1975, 89, 237-41.

Pepler, D. J. & M. S. Ross. The effects of play on convergent and divergent problem solving. Child Development, 1982, 52, 1202-1210.

Sibulkin, A. E. & I. C. Uzgiris. Imitation by preschoolers in problem-solving situation. The Journal of Genetic Psychology, 1978, 132, 267-75.

Steinberg, E. Evaluation processes in young children's problem solving. Contemporary Educational Psychology, 1980, 5, 276-281.

Smith, P. K. & S. Dutton. Play and training in direct and innovative problem-solving. Child Development, 1979, 50, 830-36.

Torrance, E. P. A three-year study of the influence of a creative-aesthetic approach to school readiness and beginning reading and arithmetic on creative development. Athens, Georgia: Georgia University, 1969. (ERIC Document No. Ed 41419)

Tweet, C. The effects of the implementation of creativity training in the elementary school social studies curriculum. Dissertation Abstracts International, 1980, 41, 1017-A.

Turner, P. Teacher level of questioning and problem solving in young children. Home Economics Research, 1980, 8, 399-404.

TABLE 1

DISTRIBUTION OF SUBJECTS BY GRADE, SEX AND GROUP

Group	Grade			Sex		Total
	K	1	2	M	F	
Creative Problem Solving (CPS)	2	12	13	10	17	27
Imaginative Communication/ Puppetry (IC/P)	2	11	13	8	18	26
						53

TABLE 2

ADJUSTED MEAN GAINS AND F-VALUES BY GROUP AND SEX

Adjusted mean gains

	DFU	DMU	Total
CSP			
males	7.64234	10.40109	23.27300
females	4.57209	29.88680	34.50498
IC/P			
males	2.41825	-1.09814	.74256
females	5.05588	18.58936	21.74561

F-Values

	DFU	DMU	Total
Group	.89	2.39^{t}	4.73**
Sex	.01	6.77***	3.71*

*significant at .06
**significant at .03
***significant at .01
t trend (.12)

TABLE 3

MEANS, SIGNIFICANCE LEVELS AND F-VALUES FOR PRE, POST AND FOLLOW-UP TEST OF CPS GROUP

	Mean 1	Mean 2	Sign.	Mean 3	Sign.	F-Value
DFU	18.07407	26.51852	.0006	26.00000	ns	8.54
DMU	47.70370	64.70370	.0006	77.18519	ns	8.56
Total	66.07407	92.33333	.0000*	103.22220	ns	12.58

*p > .00001